manager module 52 of the new channel. The capacity manager module 52 responds by updating its resource tables and informing the service manager 50 that the communications channel has been established. The capacity manager module 52 then allocates capacity from the new channel to the service requests, and informs the service manager 50 that the service request can be admitted. The service manager 50 responds by performing the signaling required to admit the service request, and the admission process is completed.

[0055]   The control system described above is not restricted to operating on a single wavelength. It may operate on a group, sub-band or band of wavelengths and treat them as a single capacity unit to be routed. The group of wavelengths may be switched together using one optical switching element, or each wavelength can go to a separate switching element.

[0056]   As will be understood by those skilled in the art, the network control structure described above represents only one example of a hierarchical structure that can be implemented to reconfigure an agile optical network using constraint-based rules to minimize the computational effort required to select viable routes through the network.

[0057]   The embodiment(s) of the invention described above is(are) intended to be exemplary only. The scope of the invention is therefore intended to be limited solely by the scope of the appended claims.